

**California Actuarial Advisory Panel  
Actuarial Policies and Practices for  
Public Pension and OPEB Plan Funding  
Revised Discussion Draft December 17, 2010**

**Scope of this document:**

Identify policy objectives for a level cost actuarial model and related actuarial funding policies  
Identify principal elements of actuarial funding policy for representative California public pension and OPEB plans

Consistent with policy objectives, current and emerging actuarial science and governing actuarial standards of practice, develop and describe a basic level cost model, and identify various policy parameters or ranges as:

- Model practices
- Preferable practices
- Acceptable practices
- Non-recommended practices
- Identify and discuss special plans and situations, possibly including:
  - CalPERS
  - CalSTRS
  - The University of California Retirement Plan

The model, preferable, acceptable and non-recommended practices are identified to provide illustrative guidance to public plans in California. They not necessarily the recommendations of the CAAP or its panelists.

**General Objectives for the level cost model and related practices:**

**Note: objectives specific to each principal policy element are identified in the discussion of that policy element**

1. Future contributions and current plan assets should be sufficient to provide for all benefits expected to be paid to current active, inactive and retired members. This means that contributions should include the cost of current service plus a series of payments to fully fund any unfunded or prefunded past service costs.
2. The funding policy should seek a reasonable allocation of the cost of benefits to the years of service. This includes the goal that annual contributions should, at a minimum, maintain a close relationship to the cost of each year of service.
3. The funding policy should seek to manage and control future employer contribution volatility to the extent reasonably possible, consistent with other policy goals.
4. The cost of each year of service, generally known as the Normal Cost or service cost, is intended to emerge as a level percentage of member compensation.
5. Variations from the Normal Cost will generally arise from gains or losses, method or assumption changes or benefit changes and will emerge as an Unfunded (or prefunded) Actuarial Accrued Liability (UAAL). The cost for such variations should be amortized over

periods consistent with an appropriate balance between policy objectives 2 and 3, that is, demographic matching and volatility management.

[prior draft text holding tank – some may move to sections on policy elements]

- Allocate the benefit plan cost to appropriate periods
- Volatility should be minimized without compromising underlying cost
- Pay-related benefit costs should reflect anticipated pay at anticipated decrement
- No gains or losses should occur if all assumptions are met
- Exception for asset valuation method that reverts to market over reasonably short period
- Actuarial value of assets should reflect market value
- Gains or losses (changes in unfunded liability) should be amortized over a reasonable time period
- New liabilities (e.g. benefit improvements and method/assumption changes) should be amortized over a reasonable time period
- Each participant's benefit should be funded under a reasonable allocation method, generally, by expected decrement date
- Current assets and future contributions (including anticipated future investment earnings) should be sufficient to pay all expected benefits to current active, inactive and retired participants

### **Principal Elements of Actuarial Funding policy”**

A comprehensive actuarial funding policy is made up of three components:

1. An **actuarial cost method**, which allocates the total present value of future benefits to each year (Normal Cost) including all past years (Actuarial Accrued Liability or AAL).
2. An **asset smoothing method**, which reduces the effect of short term market volatility while still tracking the overall movement of the market value of plan assets.
3. An **amortization policy**, which determines the length of time and the structure of the payments for the contributions required to systematically pay off the plan's Unfunded Actuarial Accrued Liability or UAAL.

## **Discussion points for December 17**

### Classification of policy parameters

Model practice

Preferred practice

Acceptable practice

Non-recommended practices

How might these classifications apply to these actuarial cost method alternatives and variations:

- Entry Age method vs Projected Unit Credit method
- For plans with multiple benefit piers:
  - “Ultimate” Entry Age method (Using NC for open tier for members not in that tier)
  - Regular Entry Age with NC based on each member’s actual benefit tier.
- For tiers with a change in benefits after a fixed date:
  - “Replacement life” Entry Age method, with NC based on current benefit formula
  - “Average” Entry Age, with NC based on each member’s composite projected benefit
- “Funding to decrement” Entry Age method
- Aggregate Method (amortizing UAAL ) over future salaries
  - Perhaps with disclosure of equivalent single layer amortization period

How might these classifications apply to smoothing and amortization alternatives, including:

- Long asset smoothing with no MVA corridor
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- Fixed period smoothing vs. rolling smoothing
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- Level percentage of pay vs level dollar UAAL amortization
- Rolling/open level percentage of pay amortization over long periods (i.e., with some or substantial negative amortization)

[More on these in discussion of asset smoothing and UAAL amortization policy elements]

**Actuarial Cost Method – allocates the total present value of future benefits to each year (Normal Cost) including all past years (Actuarial Accrued Liability or AAL).**

**[this section under construction]**

**Policy objectives specific to Actuarial Cost Method**

- text
- text

**Model Practice**

- Entry age method with level percentage of pay Normal Cost
  - Level normal costs even if benefit accrual changes with age or service
  - For multiple tiers: Normal Cost based on each member's benefit
  - For formula changes: Normal Cost based on current benefit ("replacement life")

**Preferred Practices**

- Model practice (see above)
- Aggregate method

**Acceptable Practices**

- Projected Unit Credit
- For formula changes: Normal Cost based on each member's composite projected benefit ("Average" Entry Age)
- Funding to Decrement "Entry Age method"

**Non-recommended Practices**

- Normal Cost based on open tier even for members not in that tier ("Ultimate" Entry Age)

**[prior draft text holding tank]**

- Pay-related benefit plans
  - Entry age normal cost – spreads the cost more evenly across the years and typically is more stable
  - Projected unit credit
  - Aggregate (provided funded status is determined under either EAN or PUC)
- Plans not pay related
  - Entry age normal cost
    - With or without salary scale
  - Projected unit credit
  - Unit credit
- Individual account plans
  - Unit credit

**Asset Smoothing Methods** -- reduces the effect of short term market volatility while still tracking the overall movement of the market value of plan assets

**Policy objectives specific to Asset Smoothing Method [this section under construction]**

- Unbiased relative to market
- Unbiased relative to realized vs unrealized gain loss
  - Limit to deferrals based on total return gain/loss?
- Structure includes period, range (corridor) and method (fixed or rolling)
- Incorporate ASOP 44 concepts of:
  - Likely reasonable period AND likely reasonable range
  - OR
  - Sufficiently short range OR sufficiently narrow range
- Reflects empirical experience from recent market volatility

**Model / Preferred Practice**

- Fixed smoothing periods
- Maximum corridor for various smoothing periods
  - 5 years, 50%/150% corridor
  - 7 years, 60%/140% corridor
  - 10 years, 70%/130% corridor
  - 15 years, 80%/120% corridor
  - Unlimited, 85%/115% corridor (see GASB PV)

**Acceptable Practices**

- Five year (or shorter) smoothing with no corridor
- Rolling smoothing periods
  - With conditions (?)

**Non-recommended Practices**

- Longer than 5 year smoothing with no corridor

**[prior draft text holding tank]**

- Actuarial value of assets must be market related
- Rolling spread period OK, provided:
  - Actuarial value expected to be within 5% of market value within 10 years, if market value of assets earns assumed investment return over same period
- The expected rate of return should reflect the long-term expected return on the assets the plan will invest in

**Unfunded Actuarial Accrued Liability Amortization Policy** – determines the length of time and the structure of the payments for the contributions required to systematically pay off the plan’s Unfunded Actuarial Accrued Liability or UAAL.

**Policy objectives specific to Actuarial Cost Method [this section under construction]**

- Balance of demographic matching and volatility management
- Explicit consideration of source of UAAL
  - Experience gains and losses
  - Changes in assumptions and methods
  - Benefit changes
- Explicit consideration of negative amortization (for level percent of pay method)
- Accountability and transparency
  - Sources of UAAL
  - Full amortization date for UAAL

**Model / Preferred Practice**

- Layered fixed period amortization by source of UAAL
- Level percent of pay amortization
- Amortization periods

Source	Period
Active Plan Amendments	Demographic or 15
Inactive Plan Amendments	Demographic or 15
Experience Gain/Loss	15 to 20
Assumption Changes	15 to 25
Early Retirement Incentives	5 or less

- 30 year amortization of surplus
- 30 year amortization of change from PUC to Entry Age

**Acceptable Practices**

- Model practice with up to 15 year amortization of a single combined gain/loss layer
- Up to 25 year layered fixed period amortization by source of UAAL
- Up to 25 year fixed period single layer amortization
- [note: work group discussion limited acceptable gain/loss amortization to 20 years]

**Non-recommended Practices**

- Rolling/open amortization over 15 years (or up to point of negative amortization)

[prior draft text holding tank for UAAL amortization]

- Type
  - Level percent of pay
    - only appropriate for Actuarial Funding Methods that allocate Normal Cost as a percent of pay, e.g. Entry Age Normal or Aggregate)
    - negative amortization not allowed for open (rolling) amortization periods
  - level dollar amount
- Period
  - Not greater than a 30-year fixed period
  - Gains/losses should generally not be amortized longer than 15 years
  - Plan changes should generally not be amortized longer than 20 years
  - Method and assumption changes should generally not be amortized longer than 20 years
  - Retroactive benefit increases should generally be amortized over future working lifetime
  - Surpluses should be amortized in the same manner
  - Amortization bases can be combined and amortized over a single amortization period (aka “Fresh Start”):
    - Period should not be longer than 30 years and
    - Fresh Starts should occur infrequently (e.g. not more than once every 10 years)
- **Practices Deemed to be Unreasonable**
- Gains or losses generated if all assumptions are met
- Except as noted above for asset smoothing
- Unfunded actuarial liability not expected to be reduced over 20 years, if assumptions are met
- Contributions increase (as a percent of payroll) over time (except if resulting from asset smoothing)